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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/884,084	06/20/2001	Kensaku Komatsu	209991US0	2344

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EXAMINER

FORTUNA, ANA M

ART UNIT	PAPER NUMBER
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1723

8

DATE MAILED: 11/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/884,084

Applicant(s)

Komatsu et al

Examiner

Ana Fortuna

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Aug 26, 2002
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above, claim(s) 10-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 29, and 30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other:

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## DETAILED ACTION

### *Claim Rejections - 35 U.S.C. § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deer Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Claims 1-4, 6-8, 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parham et al (5,258,149)(hereinafter '149). Reference '149 discloses the membrane and the process of making the membrane from a combination of hydrophobic and hydrophilic polymer and a pore former or filler, e.g. silica, and by wet-spinning(column 6, lines 50-61), the membrane as microporous (include pores between 0.02 to 10 microns) is disclosed in '149, pores of about 0.4

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to 0.65 or 0.7 are preferred by in reference '149. is also disclosed (abstract, column 3, lines 3-11, and lines 49-67, and column 5, second paragraph). The particle size and the membrane flow rate is not disclosed in '149. It would have been obvious to one skilled in the art at the time the invention was made to increase the particle size in order to obtain a greater pore size as desired, as disclose in '149 the particles are the pore former (column 3, lines 4-8), and do not dissolve in the casting solution (column 5, lines 59-60), therefore the pore size and shape is expected to be the size and shape of the particle e.g. silica. One skilled in the art would have been selected particles with ellipse or circular shape and with a diameter within the range of pore size or particle size claimed in claims 1, 6, claimed in claims to reach to the flow and cut off or the present invention. As to claim 3, the polysulfone materials are disclosed as discussed above. Regarding claims 4, and 7, the percentage of hydrophilic polymer added to the casting solution as being up to 20 (column 5, lines 14-24, and lines 47-56). Regarding claim 6, the step of extracting the microparticles, e.g. by extracting with a base ( sodium hydroxide) is also disclosed in '149 (column 7, lines 55-68, column 7, lines 1-5).

4. Claims 5, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parham et al (5,258,149)(hereinafter '149) as applied to claims 1-4, 6-8, 29-30 above, and further in view of Stengard (5,019,261)(hereinafter '261) or . Reference '149, discussed above fails to disclose the hydrophilic polymer as polyvinylalcohol. As to claims 5 and 9, reference '261 teaches OH containing polymers for modifying polysulfone properties to hydrophilic, and further discloses polyvinylalcohol (abstract). It would have been obvious to one skilled in the art at the time the

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invention was made to substitute the polyethylene glycol (hydrophilic compound) suggested in reference '149, by polyvinyl alcohol, e.g. to provide OH containing groups to modify the structure and surface characteristics of the membrane e.g. its porosity and provide hydrophilic properties, as suggested by '261.

5. Applicant's election with traverse of claims 1-5 in Paper No. 5 is acknowledged. The traversal is on the ground(s) that the claims as now amended are product by process claims and process of making the membrane, additional process of using an apparatus containing the membrane are also amended, and on the bases that there is not bases for the alleged use of the membrane in the distinct processes as claimed. This is not found persuasive because the membrane, the membrane is a product claimed, and is not limited to the process of making the membrane, but to its structure and properties. The restriction also include apparatus structure, process of making the membrane and processes of using. In response to the request, and based on the amendments, the membrane (claims 1-5, and the process of making the membrane, claims 6-9, 29 and 30 are also considered together, since the process of making is directed to making the product or specific membrane, however, groups directed to the apparatus containing the membrane and processes of using the membrane are considered to be distinct and not limited to the product and process of making, as evidence by the references discussed above. The classification as noted in the restriction requirement is also distinct. Applicant can rejoin the

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claims after allowability of the product or membrane is determined. The restriction of claims 10-28 is maintained.

The requirement is still deemed proper and is therefore made FINAL.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ana Fortuna whose telephone number is (703) 308-3857. The examiner can normally be reached on Monday-Friday from 9:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached on (703) 308-0457. The fax phone number for the organization

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where this application or proceeding is assigned is (703) 872-9310 for regular responses, and  
(703)872-9311 for after finals.

Ana Fortuna

November 15, 2002



**ANA FORTUNA**  
**PRIMARY EXAMINER**